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workstation of another of the participants, by utilizing a [the] data network operating system and a data network protocol of the first network.

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Cancel claims 21 to 25.

REMARKS

Introduction

This amendment amends independent claims 2 and 16 and cancels certain claims. These cancellations are made without prejudice. A clean copy of the claims on file is attached. The amendments were made after an interview with the Examiner on September 5, 1996. The applicants, assignee and undersigned wish to thank the Examiner for the courtesies extended during this interview. The interview was particularly helpful as it defined the main outstanding issue, in this application, as being an Examiner's concern that the claimed invention may be obvious. This concern is addressed below:

The Issue

To establish *prima facie* obviousness of a claimed invention requires a showing by convincing reasoning that the prior art teaches or suggests all the claim elements. But, the only prior art of record (Vin, et al.) does not teach all the claim elements and is incompatible with the non-taught claim elements. Therefore, the outstanding issue is whether the non-teaching, incompatible Vin reference can be shown by convincing reasoning to suggest all claimed elements? It is submitted that it cannot.

Discussion

This patent application has two independent claims -- apparatus claim 2 and method claim 16. The patentability issues for both independent claims are similar. Also, claim 2 closely corresponds to claim 12 of PCT application PCT/US94/02961. The Examiner, as IPEA, previously rejected this PCT claim 12 as being obvious in the light of Vin, et al.¹, but the Applicants agree.

Vin does not teach the claimed invention.

The Vin apparatus is a patchwork of three prior systems -- the Etherphone, Macaw and Phoenix systems. A review of Figure A shows that the system comprises three networks; the first is for data, the second is for digital voice and control and the third for video. Thus, digital control and audio are on the same network not separate networks as claimed.

At a minimum, therefore, Vin does not disclose a system with separate data and audio/video (AV) networks and in which the AV conference is controlled using the data network operating system and protocol.

In the interview, however, the Examiner indicated that maybe the Vin reference could be interpreted to supply the claimed configuration. The possible reasoning would be that the Vin data and audio networks combined define one (a first) network and the video network the

¹ IEEE Computer Magazine, October 1991, Vin et al. "Multimedia Conferencing in the Etherphone Environment. This was the only reference cited against corresponding PCT claims.

other (a second) network, thus yielding the claimed separate video and data networks with video controlled by the data network.

But, this interpretation *does not yield* the claimed configuration because this defined "first network" would transmit data and audio and the second network video only. This is very different from the claimed configuration in which the first network is for data and the second network is for audio and video together; an arrangement in which the control network (data) is *separate* from the network(s) that transmit audio and video.

Accordingly, Vin does not teach, by an stretch of interpretation, the claimed configuration.

Vin does not suggest all claim elements.

If it cannot be shown that the references *teach* all the claimed features, *prima facie* obviousness can only be establishing by showing that the prior art *suggests* the claimed configuration.² This showing must be made by a convincing line of reasoning.³ But, this cannot be done because Vin cannot contain the essential teaching or suggestion to make the claimed combination with a reasonable expectation of success.⁴

² *In re: Royka*, 490 F.2d 981, 180 USPQ 580 CCPA 1974 as cited in the MPEP § 143.03.

³ *Ex Parte Clapp* 227, USPQ, 972, 973 (Bd. Pat. App. & Inter. 1985) as cited in the MPEP § 2142.

⁴ *In re Vaeck*, 947 F.2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991) as cited in the MPEP § 2142.

The Vin reference expressly states that the audio from the video network could not support voice conferencing, let alone video conferencing.⁵ Thus, Vin teaches away from using audio and video on the same network. In fact, it states, this is impossible. Accordingly, there is nothing to suggest that one should separate the control and audio video networks. Thus, these contrarian statements in Vin do not provide the necessary expectation of success and suggested desirability of the claimed combination. Accordingly, the invention cannot be obvious in the light of Vin and the burden of providing a convincing line of reasoning for such obviousness cannot be met.

For all the above reasons, therefore, Applicants, submit that the burden of showing *prima facie* obviousness has not and cannot be met. Accordingly, Applicants, request allowance of this application at the Examiner's earliest convenience. Should the Examiner believe a further conference will expedite the allowance of this application, contact with the undersigned is requested.

Respectfully submitted,


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⁵ "The analog audio of the earlier Macaw system could not automatically support voice conferencing "Vin, et al., first bullet, 2nd paragraph, middle column, p. 72.

2. A teleconferencing system for conducting a teleconference among a plurality of participants comprising:
 - (a) a plurality of workstations each having a monitor for displaying visual images, and AV capture and reproduction capabilities for capturing and reproducing video images and spoken audio of the participants;
 - (b) a first network providing a data path along which data can be shared among a plurality of the workstations;
 - (c) a data conference manager for managing a data conference, during which shared data is displayed on the workstation monitors of a plurality of the participants;
 - (d) a second network interconnecting the workstations and providing an AV path, logically separate from the data path, for carrying AV signals among the workstations, the AV signals representing video images and spoken audio of the participants; and
 - (e) an AV conference manager, for managing the reproduction of both the video image and spoken audio of one of the participants at the workstation of another of the participants by utilizing [the data a network operating system and a protocol of the first network.
3. The teleconferencing system of claim 2 wherein the first and second networks employ physically separate paths.
4. The teleconferencing system of claim 3 wherein the AV signals carried among the workstations are either analog or digital signals or a combination of analog and digital signals.
5. The teleconferencing system of claim 2 wherein the AV and data signals are multiplexed on the same physical path.

6. The teleconferencing system of claim 2 wherein the AV and data paths are implemented with unshielded twisted pair wiring.
7. The teleconferencing system of claim 6 wherein the AV path is implemented with the remaining two pairs of an existing four-pair unshielded twisted pair wiring installation, one pair of which implements the data path.
8. The teleconferencing system of claim 2 further comprising:
 - (a) at least one signal router for routing at least the AV signals among the participant's workstations so as to optimize the carrying of AV signals between the workstations.
9. The teleconferencing system of claim 8, wherein the router optimizes the signal routing based on any one or more criteria from the group of criteria consisting of the actual state of the AV path, the anticipated state of the AV path, the cost of use of the AV path and the direction of the AV signals flow on the AV path.
16. A method of conducting a teleconference among a plurality of participants comprising the steps of:
 - (a) capturing video images and spoken audio of the participants for reproduction at a plurality of participant workstations, each having a monitor;
 - (b) sharing data among the plurality of the workstations along a first network;
 - (c) managing a data conference, during which the shared data is displayed on the workstation monitors of the participants; and
 - (d) managing a videoconference by controlling the reproduction of both the video image and spoken audio of one of the participants at the workstation of another of the participants, by utilizing a data network operating system and a data network protocol of the first network.
17. The method of claim 16 wherein the AV signals carried among the workstations are either analog or digital signals or a combination of analog and digital signals.

18. The method of claim 16 further comprising the step of multiplexing the AV and data signals on the same physical path.

19. The method of claim 18 further comprising the step of:
routing at least the AV signals among participant's workstations in such a way so as to optimize the carrying of AV signals between the workstations.

20. The teleconferencing system of claim 19 wherein the signals are routed based on any one or more criteria from the group of criteria consisting of the actual state of the AV path, the anticipated state of the AV path, the cost of use of the AV path and the direction of the AV signals flow on the AV path.